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COG OPERATING LLC

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PUBLIC UTILITY COMMISSION
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APPLICATION OF ONCOR	§	
ELECTRIC DELIVERY CO, AEP	§	
TEXAS INC. AND LCRA	§	
TRANSMISSION SERVICES	§	BEFORE THE STATE OFFICE
CORPORATION TO AMEND	§	
THEIR CERTIFICATES OF	§	OF
CONVENIENCE AND	§	
NECESSITY FOR 345-KV	§	
TRANSMISSION LINES IN	§	ADMINISTRATIVE HEARINGS
PECOS, REEVES, AND WARD	§	
COUNTIES, TEXAS	§	

DIRECT TESTIMONY OF TERRY BURKES

ON BEHALF OF

COG OPERATING LLC

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I. INTRODUCTION

Q. Please introduce yourself and state your business address.

A. My name is Terry Burkes. I am an Engineer at COG Operating LLC. My business address is 550 W. Texas Avenue, Suite 1300, Midland, TX 79701.

Q. By whom are you employed?

A. COG Operating LLC (Concho).

Q. Please describe your educational and professional background.

A. I received a Bachelors degree in Petroleum Engineering from Texas Tech University. Since then, I have held various roles such as Operations Engineer, Reservoir Engineer, Senior Engineer, and Engineering Supervisor for various Oil and Gas Companies.

Q. Have you testified before the Commission?

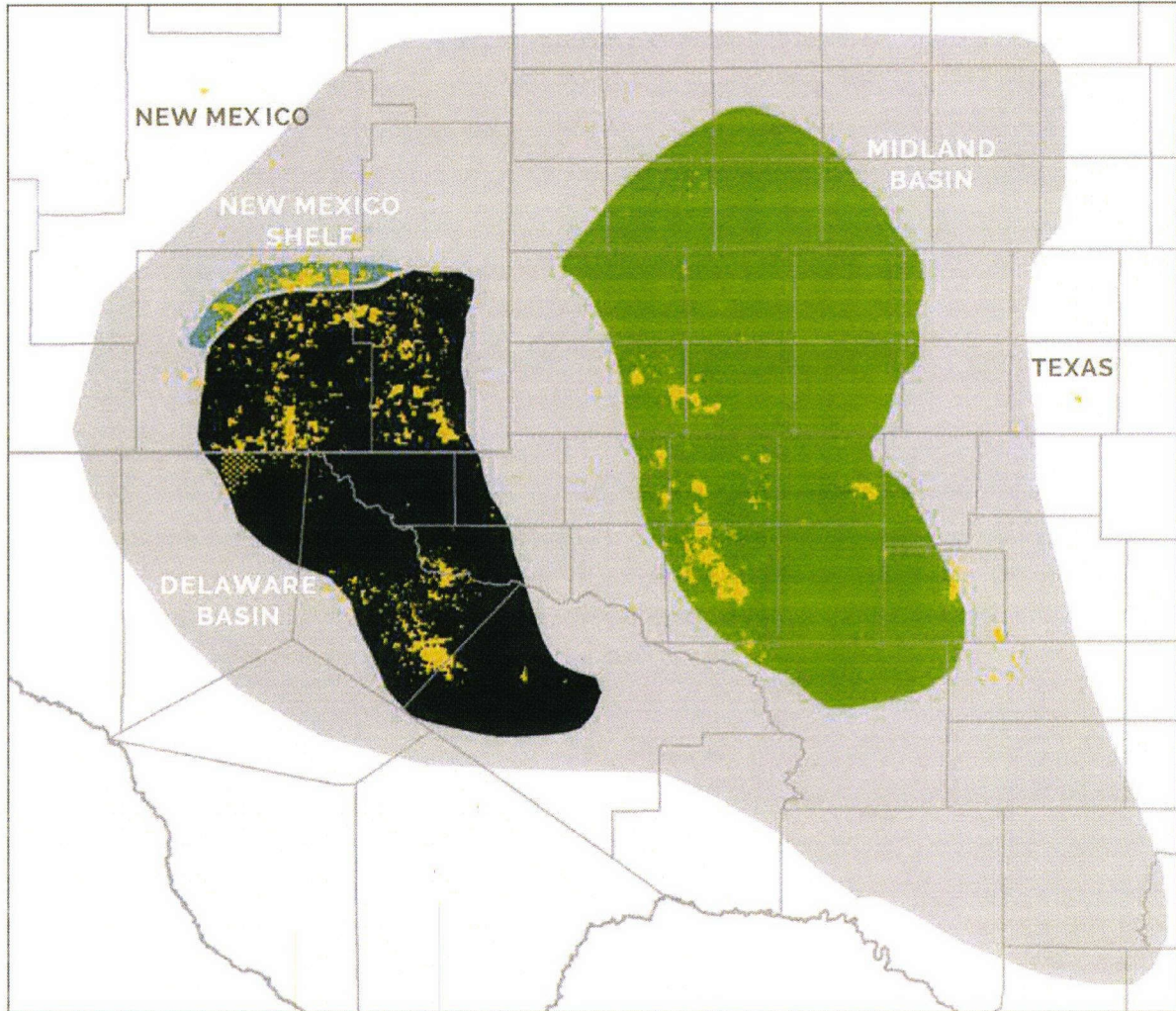
A. No, I have not.

Q. On whose behalf are you testifying?

A. I am testifying on behalf of COG Operating LLC. COG Operating LLC operates as a wholly-owned subsidiary of Concho Resources Inc. Concho is an independent oil and natural gas company engaged in the acquisition, development, exploration and production of oil and natural gas properties. It operates oil and gas properties in the New Mexico Shelf, the Delaware Basin, and the Midland Basin. The company was founded in 2004 and is based in Midland, Texas.

Concho's operations are primarily focused in the Permian Basin of southeast New Mexico and West Texas. The Delaware Basin is a legacy area for Concho historically developed through vertical wells. Today, Concho is developing its Texas Delaware Basin positions using horizontal drilling, multiwell project development, and advanced

1 completion techniques. Concho operates over 6,000 wells and is a top twelve producer of
2 oil in Texas. Concho directly employs over 1,100 people.



3
4 *Figure 1- The map above illustrates in orange Concho's acreage in the Texas portion of the Delaware Basin.*

5 **Q. Are you familiar with Concho's operations in Texas?**

6 **A. Yes.**

1 Q. Does COG Operating LLC own property that the proposed transmission line project
2 may affect?

3 A. Yes. The Oncor/AEP application lists COG Operating LLC as the owner of tract number
4 442. Proposed link or segment D31 would affect that parcel.

5 Q. Does Concho have mineral rights and facilities that the proposed transmission line
6 project may affect?

7 A. Yes. Through COG Operating LLC, Concho has several drilled wells that the project may
8 affect. The map below in Figure 2 (and provided as *Attachment TB-1*) show existing
9 drilled wells in black dots and the proposed transmission line segments, or links, as solid,
10 red lines. The Commission should consider those existing wells an engineering constraint
11 that must be accommodated for economic, health, and safety reasons.

12

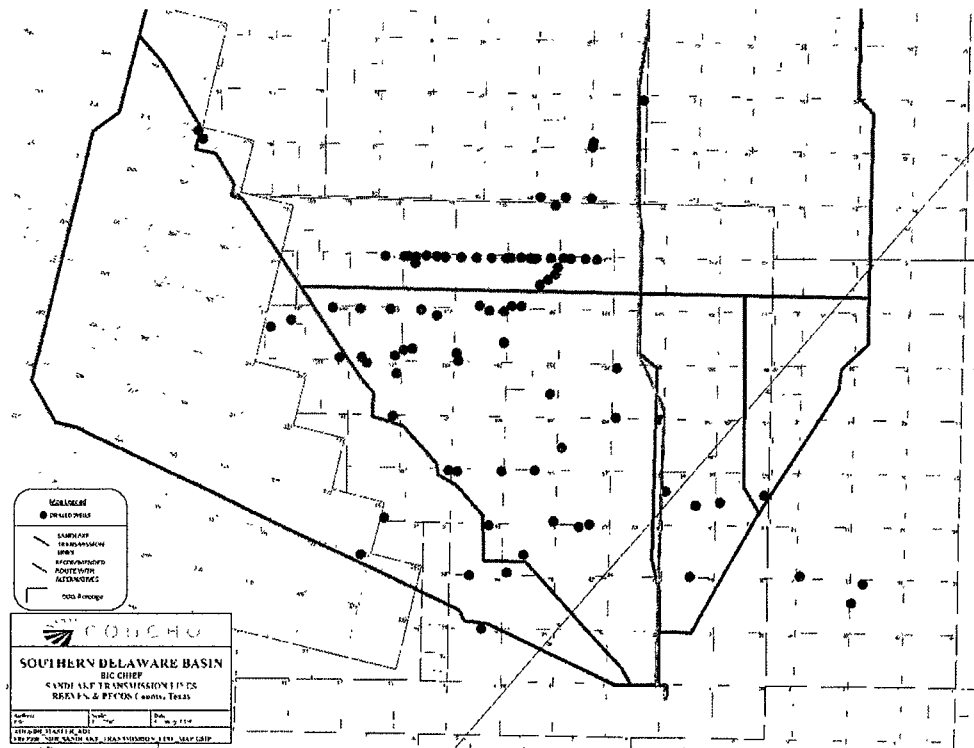


Figure 2- Concho's existing drilled wells in black dots and the proposed transmission line segments or links as solid, red lines. See Attachment TB-1 for a larger version of this map.

1 **Q. Does Concho have additional plans to develop its mineral rights in the area of the**
2 **proposed transmission line project?**

3 A. Yes. I address these plans in my testimony below. I understand the Commission does not
4 consider future real estate development in transmission line cases. That policy is
5 understandable, given the speculative nature of some real estate development. Oil and gas
6 development in West Texas is rapid, however, and development continues to increase.
7 Companies like Concho will drill and develop the Midland and Permian Basins. The need
8 for the new transmission lines is because of the new oil and gas development that—often—is
9 waiting on new transmission services. When Concho decides to drill a new well, the well
10 site is surveyed and the company files a permit application at the Railroad Commission.
11 From the time the company makes its decision to the time drilling starts on a well, the
12 process can take as little as three weeks.

13 Concho is grateful the Commission is approving additional transmission in the
14 Permian Basin. The new projects will help develop a valuable resource. I hope, though,
15 the Commission will minimize the effect of the new transmission line projects on oil and
16 gas development in the Delaware Basin. It makes little sense to increase transmission
17 capacity if the construction of the transmission project negatively affects the purpose for
18 which the Commission is approving new transmission projects.

19 Because development in the study area is progressing quickly, the location of
20 facilities along whatever route the Commission approves likely will differ from what the
21 applicants considered when they prepared their application. Because new constraints
22 likely will arise before (and even during) the time Oncor and AEP construct this project,
23 Concho supports the Commission giving Oncor and AEP additional flexibility to modify
24 the approved route so it can be constructed in a safe and reliable manner. Avoiding
25 engineering constraints, consistent with good utility practice, should be a goal of this
26 project. The concerns I identify in my testimony support the need to give Oncor and AEP
27 flexibility when constructing this project. Minimizing economic effects on oil and gas

1 production, while ensuring safety guidelines are met, should be a benefit to Texas and
2 Texas ratepayers.

3 **Q. What is the purpose of your testimony?**

4 A. My testimony addresses the placement of the Sand Lake to Solstice transmission line
5 proposed by Oncor Electric Delivery Company (Oncor) and AEP Texas, Inc. (AEP). I
6 discuss the effect various routes and links could have on Concho's operations in Texas.

7 **II. SUMMARY OF CONCHO'S POSITION**

8 **Q. Please summarize Concho's position on the proposed project.**

9 A. Because Concho's operations will be affected by the links connecting to the Sand Lake
10 substation, all the proposed routes in the application affect property that Concho either
11 owns or leases for oil and gas operations. Near the Sand Lake substation, Concho would
12 be affected by links C2, D1, D2, D31, E2, E3, E4, F3, H1 and D31 and G6. Near the
13 Solstice substation, Concho would be affected by links J1, J5, J6, J7, J8, K2, K3, K4, K5,
14 K11, K12, J6, J5, J1, J7, K5, J8 and L1, L2 and Z.

15 Concho understands some route options will affect its operations on property it
16 owns or on which it has mineral rights. Concho will work with Oncor, AEP, and the
17 Commission to develop a route that does not disproportionately burden Concho. There
18 are links that the Commission should not approve because they would substantially affect
19 Concho's operations and create health and safety concerns. The link with the greatest
20 negative impact on Concho is K3. Concho is actively drilling and developing this acreage,
21 requiring water transfer lines and producing well flowlines along that link. The
22 construction and operation of a transmission line on K3 would severely hinder Concho's
23 operations.

24 Because the proposed alternative routes reach the Sand Lake substation using links
25 K3, K11 or K5 all proposed alternative routes will affect Concho's oil and gas operations.
26 Concho opposes the use of any link not modified to move the transmission line a safe

1 distance from Concho's operations and moved to areas that will not place a
2 disproportionate burden on Concho's operations. Concho, however, will accept the
3 proposed Route 320 with modified links as described below. Those routes still will affect
4 Concho's operations in the study area, but Concho can mitigate the effect of a route that
5 uses modified links as Concho requests.

6 **Q. Does your testimony address the need for the proposed project?**

7 A. No.

8 **III. IMPACTS OF THE PROPOSED TRANSMISSION LINE PROJECT ON**
9 **CONCHO'S OIL AND GAS OPERATIONS**

10 **Q. Please describe Concho's operations in the study area.**

11 A. Concho drills, completes, and operates oil and gas wells that require construction of
12 production facilities and pipelines. Pipelines to service the production facilities include oil
13 pipelines, gas pipelines, water supply, disposal and recycling pipelines.

14 **Q. What links and routes affect Concho's interests?**

15 A. Near the Sand Lake Substation: Links C2, D1, D2, D31, E2, E3, E4, F3, H1 and G6

16 Near the Solstice Substation: J1, J5, J6, J7, J8, K2, K3, K4, K5, K11, K12, L1, L2 and Z

17 **Q. How does Concho expect building a transmission line will affect its operations?**

18 A. A. The transmission line may require moving surface locations of drill wells to less
19 desirable area resulting in reduced productivity or higher investment.

20 B. Construction and project delays may result from potentially long turnaround on
21 future temporary and permanent easements crossing the electric line easement.

22 **Q. Does Concho expect building a transmission line during active drilling to be a**
23 **problem?**

24 A. Assuming transmission line construction maintains 300 feet separation from the drill pad
25 and pits, and access roads remain open, the transmission line should not be a problem.

1 **Q. Please describe how Concho expects building a transmission line during active**
2 **drilling could be a problem.**

3 A. Concho has concerns about transmission construction closer than 300 feet to the drill pad
4 or pits. The primary reason for this spacing is concern about arcing and static electricity.
5 Also, should the drill well take a kick,¹ well fluids may need to be flared while well control
6 procedures are implemented.

7 B. Access roads need to remain open to assure no delays in equipment or material deliveries
8 and drilling rig personnel can evacuate or seek medical attention. Concho has concern that
9 access roads could be closed or blocked during transmission construction due to
10 supply/equipment deliveries or wire placement.

11 **Q. Does Concho have oil and gas gathering and processing facilities near the proposed**
12 **transmission line link locations?**

13 A. Yes.

14 **Q. Please describe those facilities.**

15 A. A Typical facility, or battery, includes separators, heater treaters, oil and water storage
16 tanks, transfer pumps, vapor recovery unit, vapor tower, combustion chamber, H2S
17 treating tower and Flare.

18 **Q. Is it unsafe to build a transmission line close to Concho's oil and gas gathering and**
19 **processing facilities?**

20 A. Concho recommends 300 feet separation from gathering and processing facilities to
21 transmission construction. The oil and gas facilities occasionally require the gas to be
22 flared. And, some of these facilities may process H2S gas.

¹ A kick is a well control problem in which the pressure found within the drilled rock is higher than the mud hydrostatic pressure acting on the borehole or rock face. When this occurs, the greater formation pressure has a tendency to force formation fluids into the wellbore. This forced fluid flow is called a kick. If the flow is successfully controlled, the kick is considered to have been killed. An uncontrolled kick that increases in severity may result in what is known as a "blowout."

1 **Q. What is H₂S gas and how does it pose a danger?**

2 A. H₂S is Hydrogen Sulfide Gas. H₂S gas inhaled can be dangerous to health and safety.
3 OSHA permissible exposure limit for 8 hours 10 ppm H₂S. Exposure of 100 ppm or
4 higher OSHA considers immediately dangerous to life and health.

5 **Q. Are there other issues associated with construction of the transmission line project**
6 **that will interfere with Concho's operations?**

7 A. Assuming the electric line easement requires prior approval to cross, timely utility
8 approval to build our facilities may be an issue. Excessive approval timing may cause
9 expensive delays for well completions and oil and gas takeaway.

10 **Q. Is Concho expanding its operations at any of its leases?**

11 A. Yes. *Confidential Attachment TB-2* illustrates proven, undeveloped wells in light red,
12 contingent wells in dark grey, probable wells in orange, and possible wells in light blue.
13 Besides these wells, numerous production facilities and pipelines not shown on map will
14 be necessary to be constructed in the area of the transmission lines.

15 **Q. Will construction of the transmission line project impose economic costs on Concho**
16 **if it cannot develop or properly maintain oil wells and related production**
17 **infrastructure?**

18 A. Yes. Many of the mineral leases have continuous development clauses which require
19 performance dates. The drill rigs are scheduled around the performance dates. Should
20 transmission line construction delay or prevent Concho from meeting these performance
21 dates, severe economic costs could be imposed on Concho.

IV. PROPOSED MODIFICATIONS

Q. What modifications can be made to Links J7, F3, and D31 to mitigate the negative effect on Concho's operations?

A. First, Concho prefers Oncor and AEP not construct the transmission line within 300 feet of Concho's existing wells or facilities. Second, Concho is unwilling to accept construction of any link within 150 feet of its existing wells or facilities.

Construction of the transmission line project within 150 feet of existing wells or facilities will create health and safety concerns for Concho's and Oncor/AEP's personnel. Also, to mitigate safety concerns related to existing gathering and processing facilities, the Commission should not approve construction of the project within 150 feet of Concho's existing gathering and processing facilities.

I discuss below Concho's proposals for modifications to Links J7, F3, and D31 to mitigate the negative effect on Concho's operations and the potential health and safety risks. The illustrations also identify an area of concern associated future development on Link J1.

Q. Please explain Concho's concerns about Route 320, the utilities' recommended route.

A. Figure 3 below (and *Attachment TB-3*) illustrate the recommended route, Route 320, in green. I inserted red circles on Links J7, F3, and J1 to identify Concho's concerns along Route 320. In each area I circled, the transmission line crosses Concho's existing oil and gas development and passes close to Concho's wells.

1

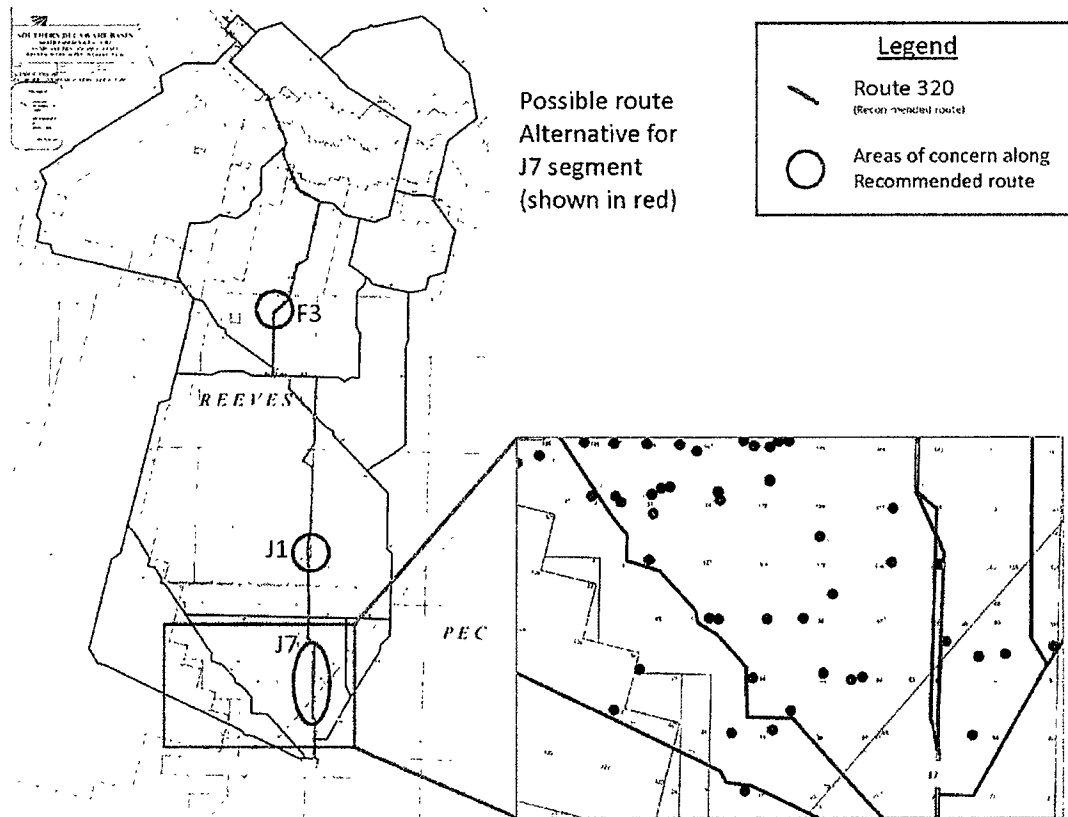


Figure 3- Route 320 with Concho's recommended modification to Link J7. See Attachment TB-3 for a larger version of this map.

- 2 **Q. Please describe Link J7 and explain Concho's proposed modifications to that Link.**
- 3 A. Link J7 may affect Concho's Paradox offset locations, so I suggest a slight reroute pushing
- 4 the transmission line east. Instead of angling northwest in Section 58, Concho proposes
- 5 continuing due north to avoid Concho's well locations. Once the line enters Section 139,
- 6 then angle northwest to the originally-proposed J7 link. Concho's recommended angle
- 7 begins sooner than the utilities' proposed link and has a less severe angle than the
- 8 utilities' proposed link. The angle at the northern end of J7 also would be a less severe

angle than the utilities propose. The modification is included in the insert in Figure 3 above and *Attachment TB-3* to this testimony.

Q. Please describe Link F3 and explain Concho's proposed modifications to that Link.

A. As proposed, Link F3 will cross near an existing Angler field well and compromise future project locations. Rerouting the transmission line a little further east will avoid the existing facility and minimize the effect on the future development in that field. My proposed modification softens two angles the utilities' propose. The modification is included in the insert in Figure 4 below and *Attachment TB-4* to this testimony.

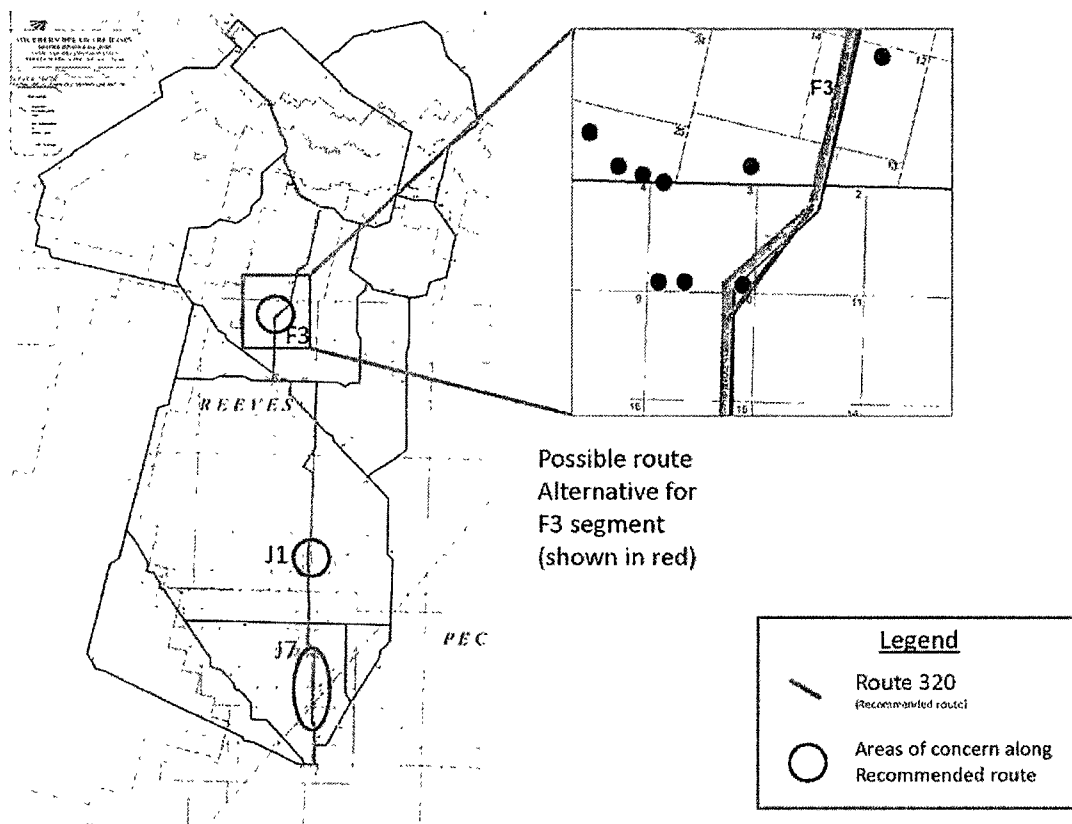


Figure 4- Route 320 with Concho's recommended modification to Link F3. See Attachment TB-4 for a larger version of this map.

Q. Please describe Link J1 and explain Concho's concerns about that link.

A. Link J1 does not affect existing facilities, but it is likely Concho—this year - will construct additional locations in the area I circled on the map. Figure 5 below and *Attachment TB-5* identify that area of concern.

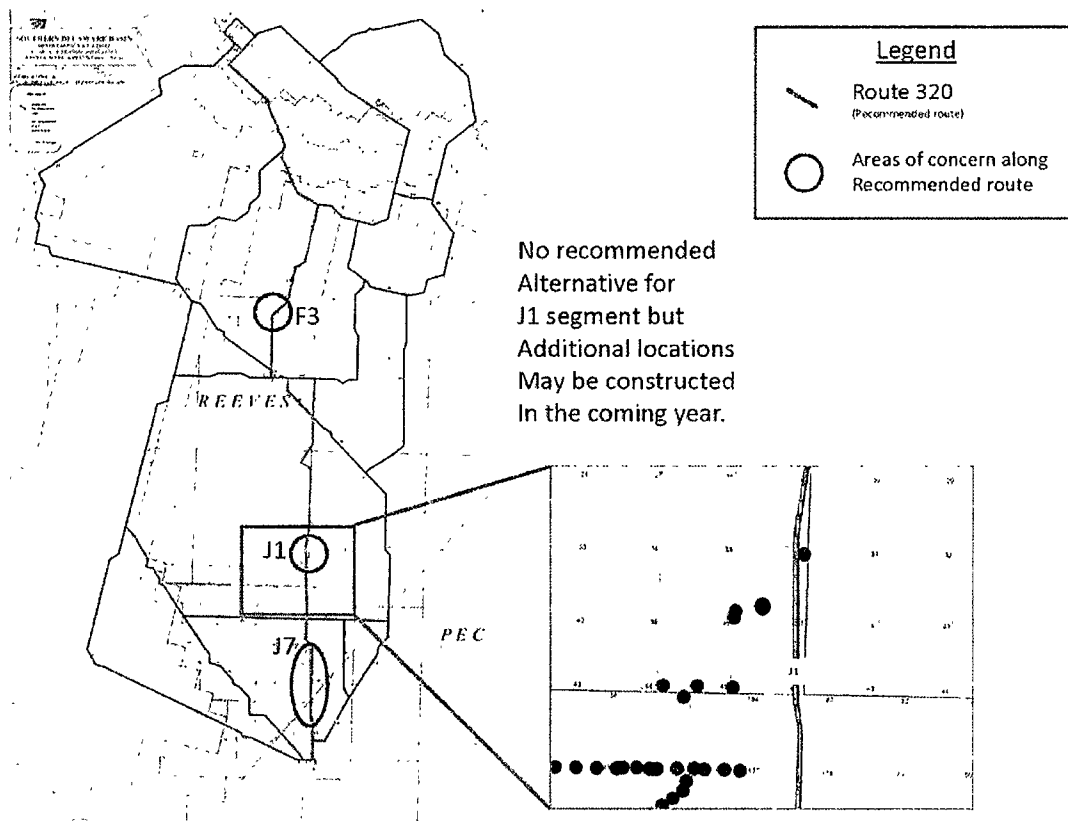


Figure 5 - Route 320 with Concho's area of future concern on Link J1. See Attachment TB-5 for a larger version of this map

Q. What are Concho's concerns with Link D31 in the northeastern part of the study area?

A. I am not aware of any party proposing to use Link D31, but that link goes too far north before turning west, which requires a sharper turn to go west and another angle as the link

1 enters Section 155. You can see in Figure 6 below (and *Attachment TB-6*) that (if the
2 Commission requires the utilities construct the project on Link D31) the Concho-
3 proposed revision softens the angle turning west and makes the connection in Section 155
4 a tangent connection instead of a soft angle. From Concho's perspective, moving the
5 transmission line further southwest from the top of Section 157 will place greater distance
6 between Concho's wells and the transmission line.
7

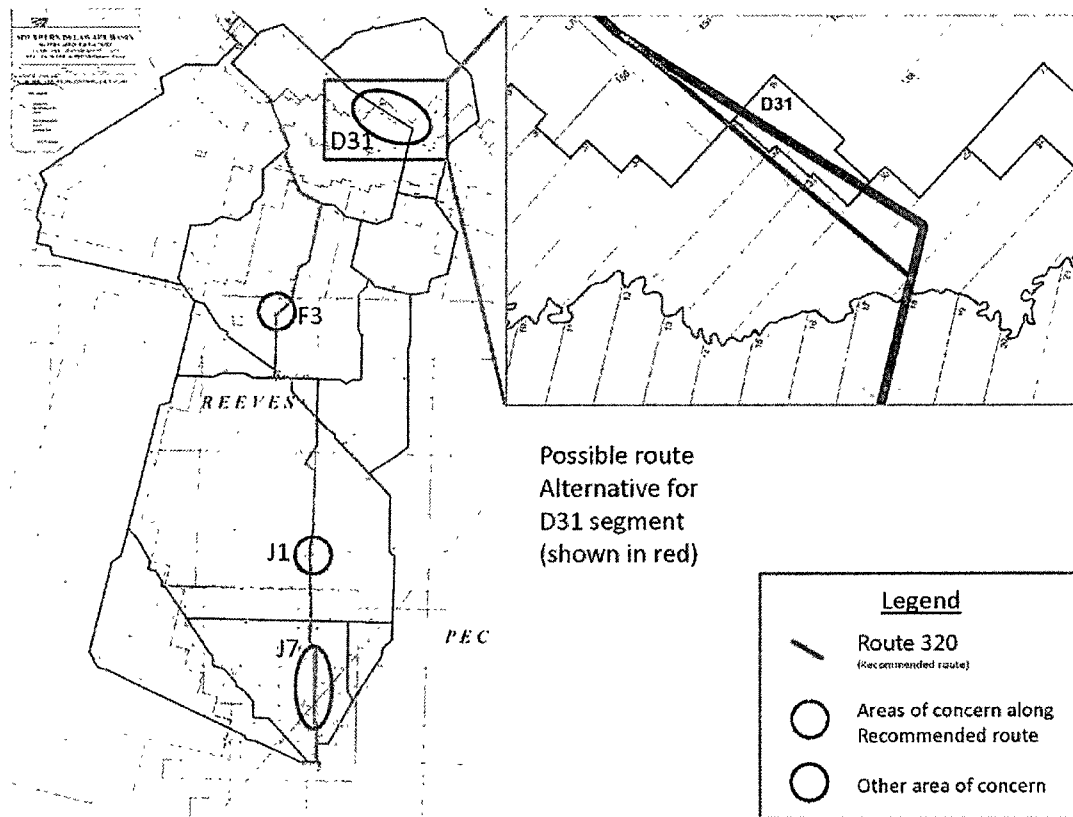


Figure 6- Link D31 with Concho's recommended modification. See Attachment TB-6 for a larger version of this map.

1 **Q. Can Concho provide a detailed electronic map of its proposed modifications?**

2 A. Yes. To facilitate a review of Concho's proposals, Concho created map files with the
3 proposed modifications to Route 320 I discuss in my testimony. Copies of those files are
4 included on a CD I am attaching to my testimony as *Attachment TB-7*.

5 **Q. Has Concho contacted the surface owners affected by its proposed modifications?**

6 A. No, not yet. Concho learned of this project just before the holidays and obtained shape
7 files to determine the extent of the effect on its operations. We then identified the
8 proposed modifications and developed this testimony. We are asking our land department
9 to identify the surface owners of the locations where Concho proposes modifications. We
10 then will begin contacting those surface owners to notify them of our proposed
11 modifications and ask for their approval of the modifications. I will supplement this
12 response by the date for rebuttal testimony with the status of those efforts.

13 **V. ROUTING PREFERENCES**

14 **Q. Please identify the links that most negatively affect Concho's operations.**

15 A. Link K3 most affects Concho. On the recommended route 320 (Concho's preferred
16 route), Link J7 most affects existing oil wells and facilities. I have proposed what appear to
17 be minor modifications to accommodate Concho's existing development on the preferred
18 Route 320 links. Link D31, in the northeastern part of the study area, affects Concho's
19 existing and future development.

20 **Q. How does Link K3 most affect Concho?**

21 A. Link K3 goes through the heart of our Big Chief drilling area. Link K3 does not follow
22 section lines and bisects diagonally across the section lines. The utilities' maps do not
23 include other engineering constraints like frac water pits, batteries, pipelines, an electric
24 substation and secondary electric grid. In heavily-developed areas, the transmission line
25 will affect each constraint and each constraint may affect the transmission line.

1 **Q. Please describe Concho's preferences for routing the proposed transmission line.**

2 A. Concho prefers Recommended Route 320, which avoids the greatest part of its existing
3 and planned development. Route 320 has minimum impact to Concho's operations and
4 with the modifications discussed above, could be mostly mitigated.

5 If the Commission approves Route 320, Concho requests the Commission approve
6 its suggested modifications and give Oncor and AEP flexibility when constructing this
7 project. When the utilities begin their engineering to construct this project, the location of
8 oil and gas producers will be better known than now. Oil and gas producers and the
9 utilities can work with the surface owners to accommodate the need to construct this
10 project while recognizing the dominant estate's rights. Minimizing economic effects on
11 oil and gas production, while ensuring minimal safety guidelines are met and minimizing
12 effects on landowners, should be a benefit to Texas and Texas ratepayers.

13 **Q. What are Concho's preferences for leaving the Sand Lake Substation?**

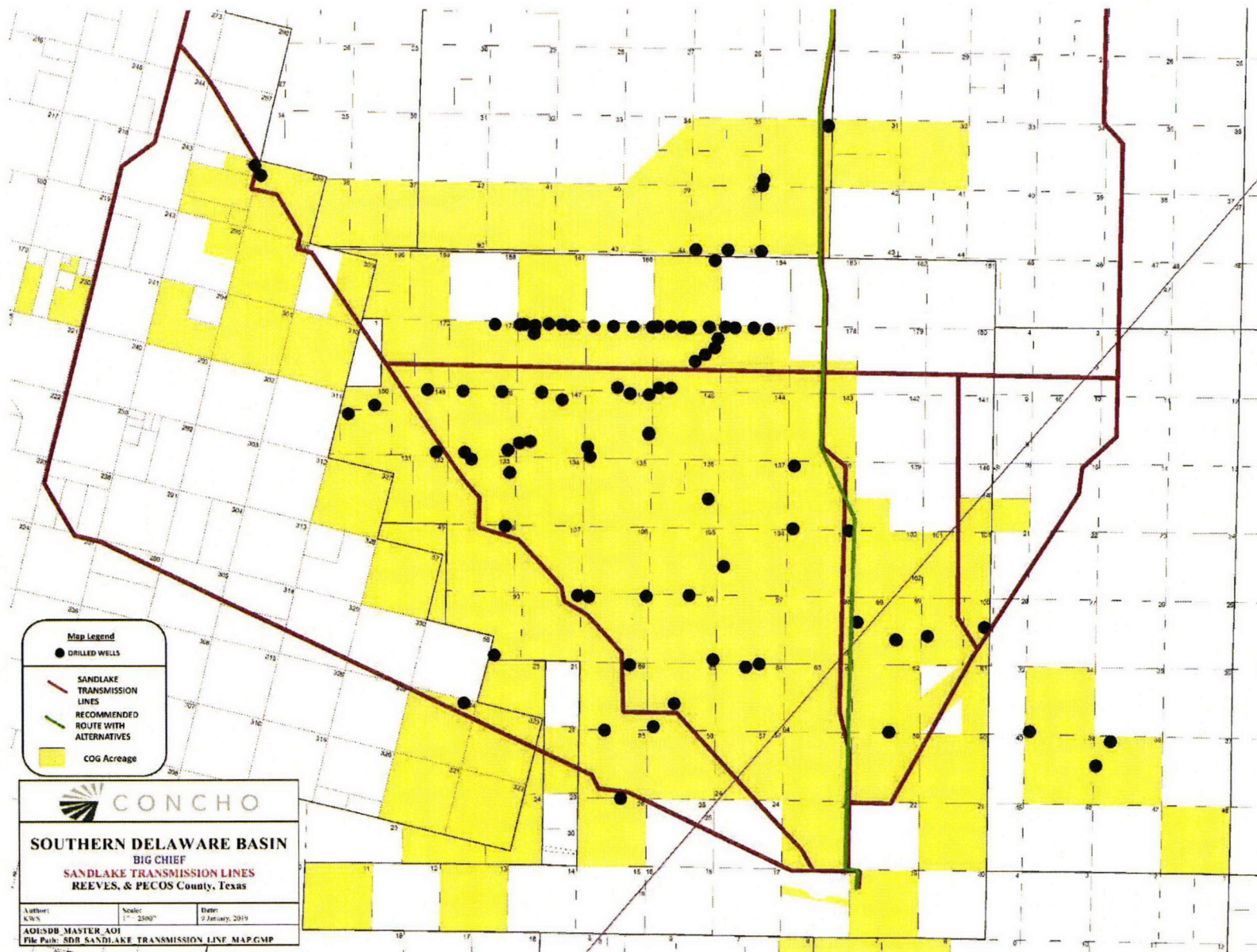
14 A. Concho prefers Recommended Route 320.

15 **VI. CONCLUSION**

16 **Q. Does this conclude your direct testimony?**

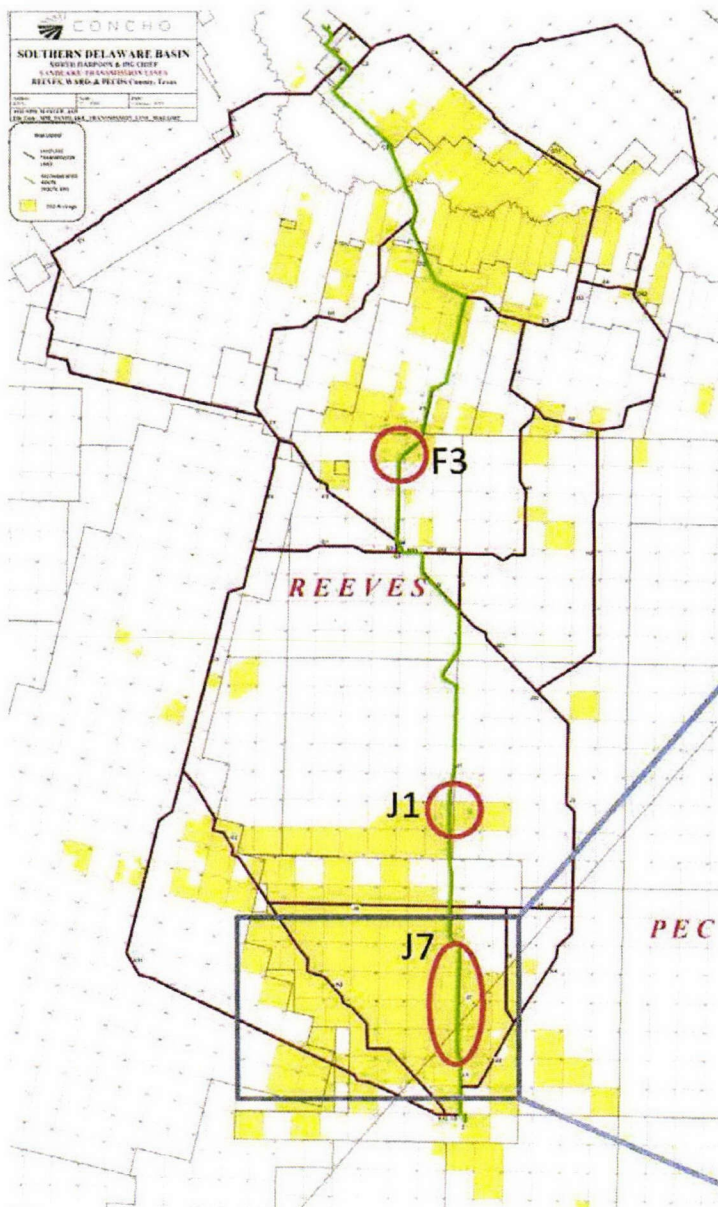
17 A. Yes.

Attachment TB- 1
Concho's existing wells in the Southern Delaware Basin

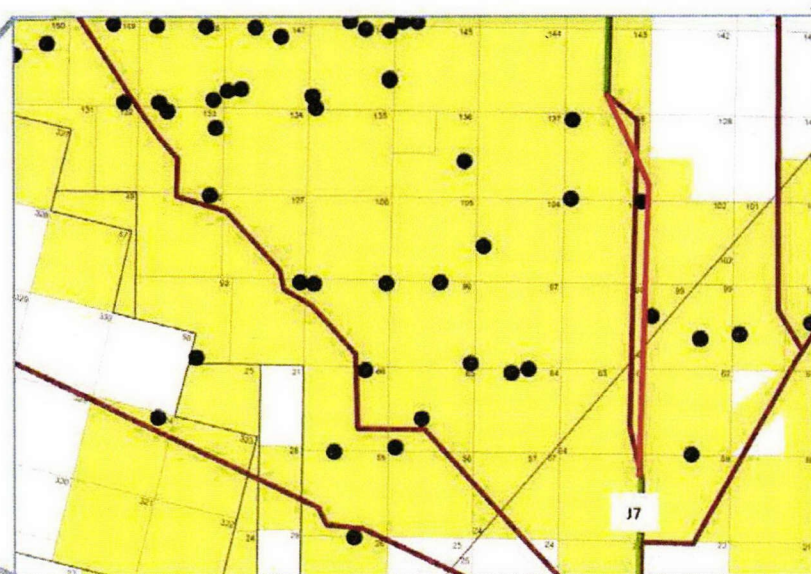
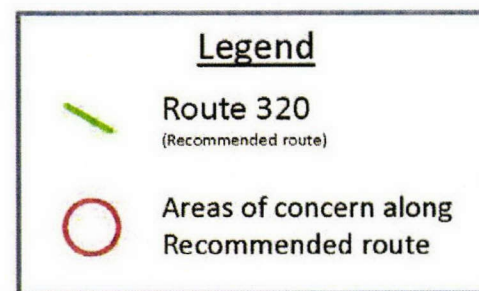


Attachment TB-2
Confidential exhibit showing Concho's
proven, undeveloped wells, contingent wells, probable wells, and possible wells

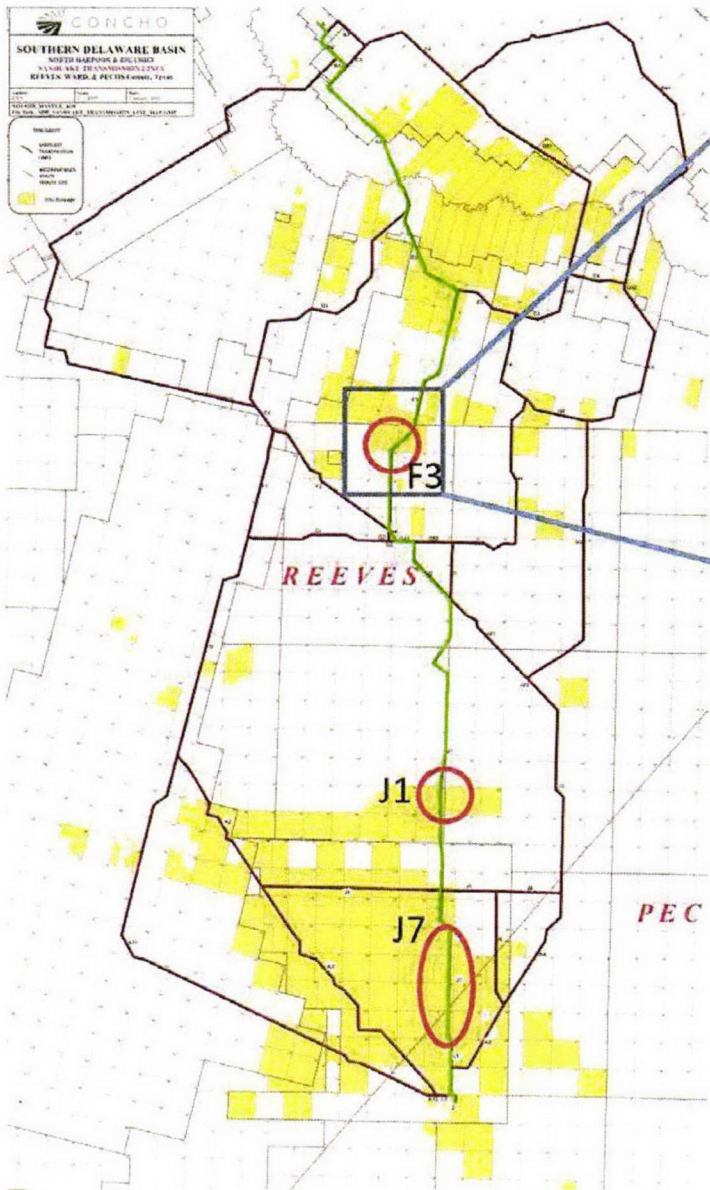
Attachment TB-3
Recommended Route 320 and Concho's areas of concern
and Concho's proposed modification to Route 320, Link J7



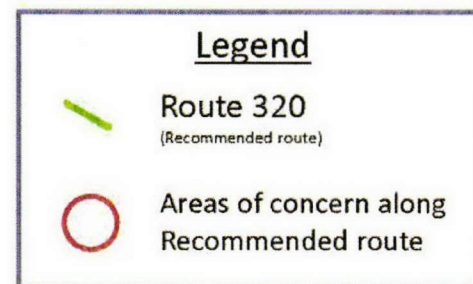
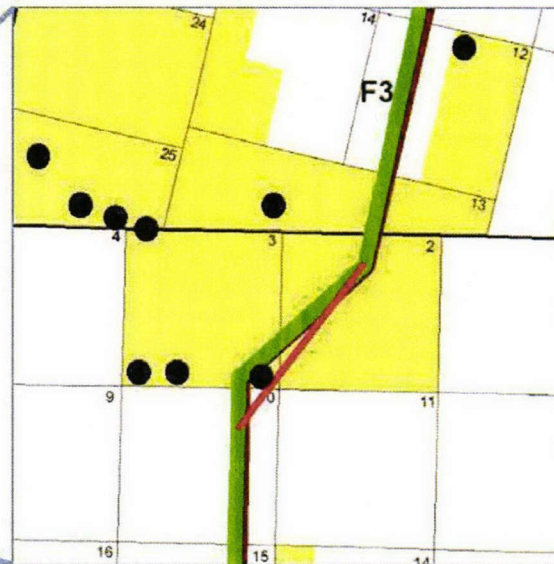
Possible route
Alternative for
J7 segment
(shown in red)



Attachment TB-4
Concho's proposed modification to Route 320, Link F-3

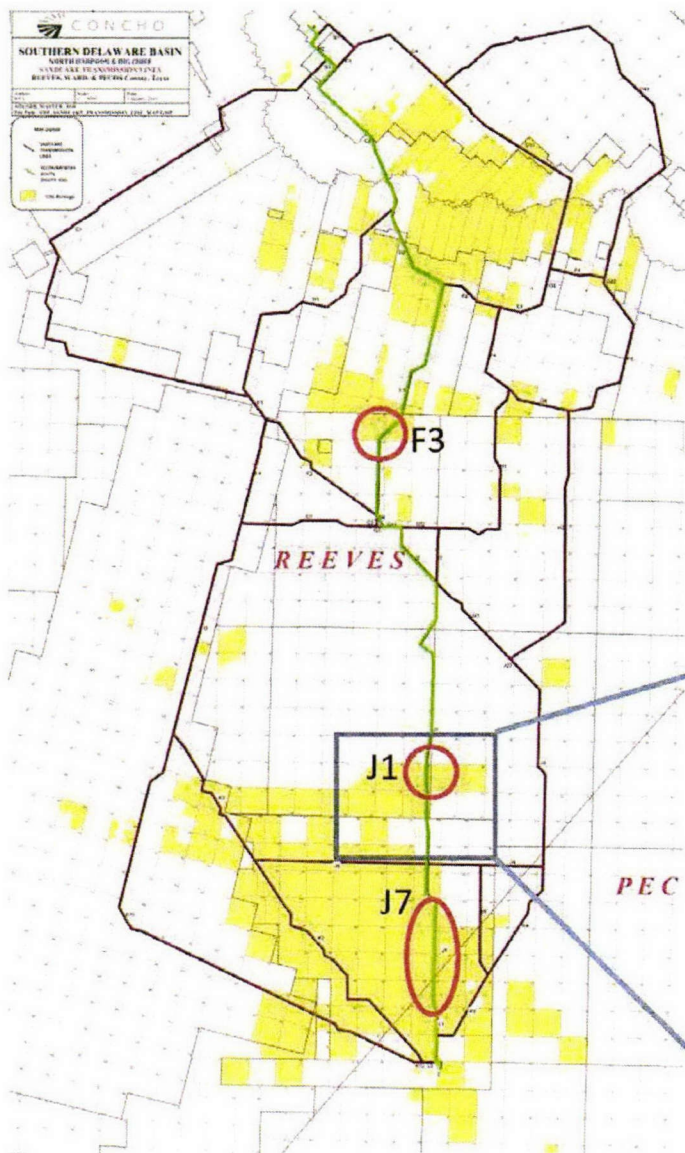


Possible route
Alternative for
F3 segment
(shown in red)

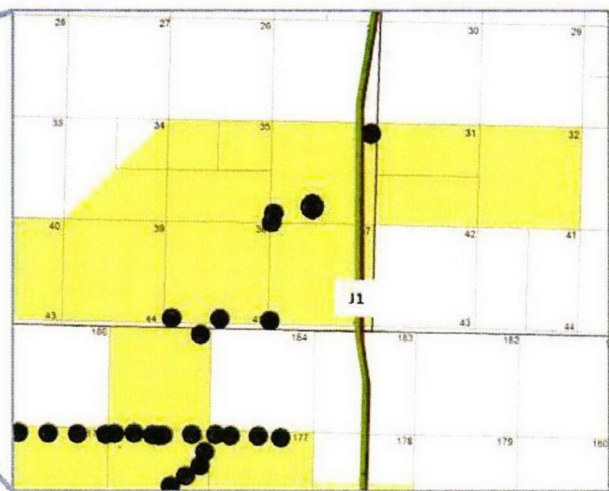


Attachment TB-5

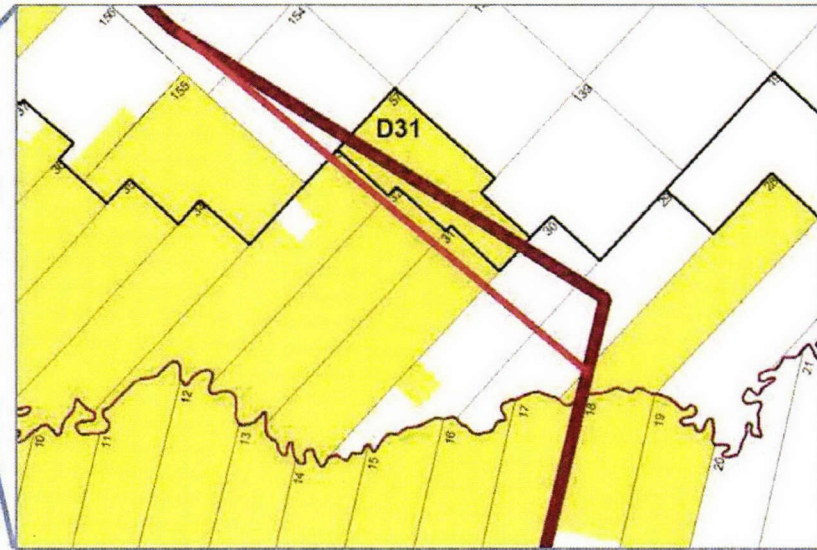
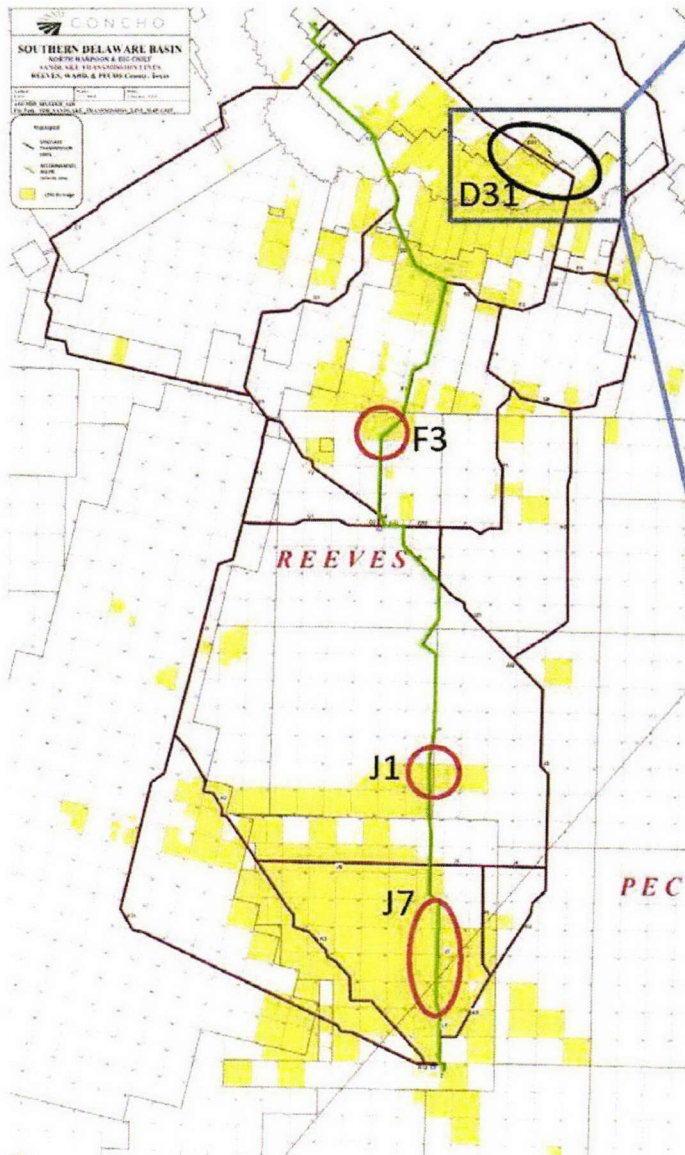
Concho's identification of future development on Route 320, Link J1



No recommended
Alternative for
J1 segment but
Additional locations
May be constructed
In the coming year.



Attachment TB-6
Concho's proposed modification on Link D31



Possible route
Alternative for
D31 segment
(shown in red)

